

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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| In the Matter of |) | |
| |) | |
| International Comparison and Consumer |) | GN Docket No. 09-47 |
| Survey Requirements in the Broadband Data |) | |
| Improvement Act |) | |
| |) | |
| A National Broadband Plan for Our Future |) | GN Docket No. 09-51 |
| |) | |
| Inquiry Concerning the Deployment of |) | GN Docket No. 09-137 |
| Advanced Telecommunications Capability to |) | |
| All Americans in a Reasonable and Timely |) | |
| Fashion, and Possible Steps to Accelerate |) | |
| Such Deployment Pursuant to Section 706 of |) | |
| the Telecommunications Act of 1996, as |) | |
| Amended by the Broadband Data |) | |
| Improvement Act |) | |

**COMMENTS OF CENTURYLINK
NBP PUBLIC NOTICE # 25
(TRANSITION FROM CIRCUIT-SWITCHED TO IP-BASED NETWORK)**

INTRODUCTION

The Commission’s National Broadband Plan Public Notice #25 invites comment on the “transition from a circuit-switched network to an all-IP network.”¹ CenturyLink appreciates the opportunity to address this issue. CenturyLink serves cities, towns, and rural communities all across America. It serves over 7 million access lines and more than 2 million broadband customers spread among 33 states, ranging from Texas to Minnesota and from Florida to Washington State. CenturyLink is noted for its particular commitment to rural America. Its

¹ *Comments Sought on Transition From Circuit-Switched Network to All-IP Network*, NBP #25, DA 09-2517 (rel. Dec. 1, 2009) (“Public Notice”).

average line density is a low 23 access lines per square mile, and it has entire study areas with average densities below 6 per square mile. CenturyLink has more than \$10.3 billion invested in its network. Today, it continues to invest in broadband deployment and upgrades wherever it can be economically justified, even in the face of declining access lines.² Already, it has made wireline broadband available to 89% of households within its service areas, and it continues to extend and upgrade its broadband network in the communities it serves.

I. IP technology itself does not alter the character of voice services provided using that technology.

The notice recognizes that communications services are “evolving,” and that broadband is having “a significant impact on the circuit switched [Public Switched Telephone Network], a system that has provided, and continues to provide, essential services to the country.”³ Services are indeed evolving with technology. That evolution, however, is not new. Nor is it not unique to Internet protocol (“IP”) technology. In communications, technology is always evolving.

With respect to PSTN voice services and those offering comparable functionalities, the transition to IP technology is comparable to transitions from earlier technologies. For example, the nation’s communications networks migrated from telephone switchboards to mechanical switches, from mechanical switches to computer-controlled ones, and from dedicated circuits to multiplexing. The current transition to IP technology is comparable to the prior transition from analog to digital technology.

² Like other ILECs, CenturyLink faces continuing access line losses due to local service competition. CenturyLink’s total line count declined by more than 9% over the past year alone.

³ Public Notice at 1.

The providers of the nation's telecommunications networks actually have been driving new technology for decades. They have been investing in new technology continually. IP technology is just the latest technology, yet even it is not necessarily as new as it seems. Carriers -- including incumbent local exchange carriers ("ILECs") -- have been steadily integrating packet switching and IP technology into their networks over the past decade. Soft switches have been carrying voice traffic for years, and a variety of IP services -- including VoIP -- are widely available from many service providers. Accordingly, the transition is already well underway, based on the inherent benefits in cost and versatility -- at least until a new technology overtakes it, as it inevitably will. IP and packetized technology first had its impact on long haul transport, but investment quickly spread even to local service providers.

Nortel Networks, in particular, was successfully marketing IP-based gear to local carriers a decade ago, including a Time Division Multiplexing ("TDM")-to-packet gateway that would upgrade local time division multiplexed networks to packet-based, IP technology.⁴ The Sprint Local Telecommunications Division -- now part of CenturyLink -- began deploying packet switching technology into its local network a decade ago, with the express goal of gradually transforming its local telephone network into a packet voice network.⁵ This type of investment

⁴ E.g., Product Brief, *Voice over IP Solutions - Succession Multi-service Gateway 4000* (July 2001), available at <http://www.nortel.com/products/01/succession/cs/mg4k/collateral/89033.03-07-01.pdf>.

⁵ In 2001, Sprint and Nortel announced a four-year, \$1.1 billion contract for IP network equipment. Originally, Sprint envisioned transforming the entire ILEC network to packet-switching technology in as little as eight years. At the time, Sprint was already using Nortel packet switching technology for long-haul transport. News Release: *Nortel Networks Passport Packet Voice Gateway Solution Goes Live in Sprint Network* (July 31, 2000), available at http://www.nortel.com/corporate/news/newsreleases/2000b/07_31_0000367_sprint_pvg.html; News Release: *Sprint Awards US\$1.1 Billion Deal to Nortel Networks for Next Generation*

would help introduce a wide range of Internet capabilities, including advanced switching and routing, eventual VoIP capability, and multimedia potential, while helping extend the reach of its high-speed Internet services.

Other ILECs were making similar investments in packetized technology. Announcements from Nortel at the time show that Qwest had already begun introducing similar technology into its local networks by 2000. By 2002 Verizon had deployed packet switching technology to some of its ILECs' tandem switch locations.⁶ Other carriers were also investing heavily in this IP technology.

The introduction of new technologies into the network does not change the character of services provided using that technology. A voice call remains a voice call whether it is packetized or not. The transmission of data remains the transmission of data regardless of how it is transmitted. In assessing its role as policy maker, the Commission should use care not to allow a particular technology to direct its policy thinking. In an increasingly fast-changing technological world, regulators cannot expect to have the foresight to see over the horizon, and policies based on technologies, rather than services, likely will be rendered obsolete and unworkable.

Network (Nov. 5, 2001), available at http://www.nortel.com/corporate/news/newsreleases/2001d/11_05_01_sprint_voip.html.

⁶ *E.g.*, News Release: *Nortel Networks Deploying Voice, Data Network for Qwest Using Internet Technology* (Oct. 11, 2001), available at http://www.nortel.com/corporate/news/newsreleases/2001d/10_11_01_qwest.html; News Release: *Verizon Introduces Voice Transmission Over Packet Switching Provided by Nortel Networks* (July 2, 2002), available at http://www.nortel.com/corporate/news/newsreleases/2002c/07_02_02_verizon.html.

II. The Commission should minimize regulation, but ensure all technologies are subject to the same regulatory requirements when interacting with the PSTN.

The PSTN is not defined by technology. The PSTN is “the entire interconnected collection of local, long distance and international phone companies” -- the interconnected network that makes possible the voice and data services that the public uses every day.⁷ It is the backbone on which voice and data travels, on which telephone and Internet traffic is carried. It is the network on which the public relies, and will continue to rely, as the foundation of our communications system.

The Commission must always strive for technological and market neutrality. It should seek to promote investment and innovation of all types, and ensure all technologies -- and all service providers -- are subject to the same regulatory requirements when interacting with the PSTN. Applying different regulatory treatment based on technology distorts markets by favoring one business plan over another. It distorts investment by creating artificial incentives to deploy a technology or process that might otherwise not win on the merits based on quality, efficiency, or versatility. Disparate regulatory treatment based on technology also undermines critical policy goals, particularly universal service.

CenturyLink also believes the Commission should seek to keep regulation to a minimum. It should be looking for opportunities wherever possible to lift the burden of outdated or unnecessary rules, and there are plenty of them. But it should be striving to eliminate regulatory disparities. The Commission has already found that the public interest requires competitively neutral rules for supporting the PSTN. It requires “universal service support mechanisms and

⁷ Newton’s Telecom Dictionary, 18th edition (2002) at 596.

rules [that] neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another.”⁸ The development of IP technology is no basis for intentionally or unintentionally favoring one technology -- or one class of competing service provider -- over another.

That is not to say that the Commission should be maintaining old regulatory practices indefinitely. Congress expressly directed the Commission and state commissions to minimize regulation, to use alternative regulatory methods and forbearance to promote competition and to remove barriers to infrastructure investment in advanced telecommunications capability.⁹ Further, Congress intended this instruction to all advanced telecommunications capability, “using any technology.”¹⁰ The Commission itself has acknowledged the very real risks of discouraging investment and innovation through excessive regulation.

In the *IP Enabled Services NPRM*, the Commission asked for comment on how to “facilitate” the adoption of IP-enabled services, imposing “discrete regulatory requirements only where such requirements are necessary to fulfill important policy objectives.”¹¹ The Commission recognized that the use of IP technology in voice services should not justify exempting interconnected VoIP providers from complying with regulatory rules on 911/E911,

⁸ E.g., *Universal Service Contribution Methodology*, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518 at ¶ 44 (2006), *aff’d in rel. part, Vonage Holdings Corp. v. FCC*, 487 F.3d 1232 (D.C. Cir. 2007) (“*USF Contribution Order*”), quoting *Communications Assistance to Law Enforcement Act and Broadband Access and Services*, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd 14989 at ¶ 42 (2005), *aff’d, American Council on Educ. v. FCC*, 451 F.3d 226 (D.C. Cir. 2006) (“*CALEA Order*”).

⁹ Section 706(a), Telecommunications Act of 1996, codified at 47 U.S.C. § 157 nt.

¹⁰ *Id.*, section 706(c)(1).

¹¹ *IP-Enabled Services*, Notice of Proposed Rulemaking, 19 FCC Rcd 4863 at ¶ 5 (2004) (“*IP-Enabled Services NPRM*”).

assistance to law enforcement, privacy and consumer protection, or disability access, as well as contributing to the Telecommunications Relay Service Fund.¹² The Commission has also found that VoIP providers must share the obligation to support universal service, through contributions to the universal service fund.¹³

The transition from circuit-switched to IP technology is already long underway, based on its inherent benefits in cost and versatility. Since the *IP Enabled Services NPRM*, investment in IP technology (including investment by ILECs) has soared. Consequently, the Commission does not need to change policies to promote that technology. The Commission need not and should not distort the market by giving use of IP technology needless artificial advantages over other technologies. Instead, all services and service providers should be minimally regulated, and only to the extent necessary to maintain the network and protect consumers. That includes ensuring that IP-based competitors fulfill their obligations under the current intercarrier compensation regime to support the PSTN. The use of IP technology is not an excuse for carriers to evade their obligation to pay access charges on their traffic. To do otherwise would seriously undermine universal service and discourage broadband deployment in rural areas.

¹² *IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers*, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245 at ¶¶ 1, 36-37 (2005), *aff'd*, *Nuvio Corp. v. FCC*, 473 F.3d 302 (D.C. Cir. 2006); *CALEA Order* at ¶ 8; *Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934; Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; the Use of N11 Codes and Other Abbreviated Dialing Arrangements*, Report and Order, 22 FCC Rcd 11275 at ¶¶ 16, 32, 36 (2007).

¹³ *USF Contribution Order* at ¶ 34.

III. The Commission should strive to protect the PSTN, on which the public continues to rely.

The PSTN remains the backbone of the nation's communications system. It is the *essential* network, the only network that interconnects all Americans. Regardless of traffic type (voice or data), service type (wireless, wireline, or VoIP), or technology (circuit switched or IP-based), the vast majority of American's depend on the PSTN to make their communications possible.

No one is volunteering to replace that network, much less to replace that network in low-density, high-cost areas served only by ILECs. Therefore, ILECs' continued investment is vital. ILECs have invested more than \$115 billion in their local networks,¹⁴ and they have delivered a network with reliability, quality, and ubiquitous coverage that directly benefits every American. The Commission must maintain a primary goal of ensuring continued investment in the ubiquitous PSTN, regardless of technology.

Although IP technology is rapidly being introduced to the PSTN, portions of the PSTN will continue to depend on circuit-switched technology for some time. This will be especially true in the lower density, higher-cost rural areas where network investment is most difficult to justify. The Commission's policy with respect to the PSTN and the ongoing investment in IP must preserve the incentive and ability for providers to make investment in lower density areas.

¹⁴ The total value of ILEC investment as of 2007 was \$115 billion, as determined by ARMIS data. That figure likely understates the current value of ILEC investment .

IV. The Commission should ensure ILEC networks receive appropriate support to maintain, extend, and upgrade the PSTN in high-cost areas.

IP technology does not change the core economics that have led to the basic framework of today's telecom regulation. Networks using IP technology face the same challenges in low density areas as networks using any other available technology. The Commission faces the same policy goals, which are to promote investment to enable ever more advanced and innovative competitive services to be offered to all Americans, even those in low density, high cost areas. Inevitably, the regulatory challenges the Commission faces are necessarily going to remain largely the same in the future.

ILECs are the only providers serving the lowest-density, highest-cost areas. They need support to ensure universal service to low-density, high-cost areas. They receive explicit support through the universal service fund's high cost program, and they receive implicit support through the intercarrier compensation mechanism. These mechanisms are essential to meet section 254's mandate to ensure that universal service is available in high cost, rural, and insular areas.¹⁵ They remain essential to maintain, let alone extend and upgrade, telecommunications network in those areas.

The Commission, therefore, should be cautious, in any policy making that the PSTN is not undermined. Americans are accustomed to the quality, reliability, and ubiquitous nature of the PSTN. The Commission, moreover, should not take ILEC carrier-of-last-resort ("COLR") obligations for granted, nor overlook the heavy burdens that the COLR obligations impose on ILECs that operate the PSTN in low-density, high-cost areas. Any change in policy should ensure an appropriate, lengthy transition to ensure existing investment in the existing network is

¹⁵ 47 U.S.C. § 254.

not stranded, and to ensure all Americans continue to receive consistent, reliable, and high quality service, regardless of where they live.

CenturyLink welcomes comprehensive reform of intercarrier compensation and universal service, and encourages the Commission to recommend sensible reform policies in the National Broadband Plan that will promote broadband investment. A key component of any reform plan must be ensuring the economic viability of service and investment in rural areas. It needs to ensure adequate, sufficient, and predictable high cost support is available to carriers in high cost areas. CenturyLink and other mid-sized rural carriers have proposed a reform approach in the Broadband Now Plan.¹⁶

The Commission can proceed with that reform without issuing another Notice of Inquiry on the transition to IP technology, as proposed in the public notice.¹⁷ It can promote broadband investment, even in rural areas, while reforming universal service and intercarrier compensation reform. The Broadband Now Plan outlines a reasonable and workable transition to that end.

Respectfully submitted,



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December 21, 2009

¹⁶ See Letter to Marlene Dortch (Secretary) from David Bartlett (CenturyLink), Michael Shultz (Consolidated), Michael Anderson (Iowa Telecom), and Eric Einhorn (Windstream), GN Docket Nos. 09-47, 09-51, 09-137, filed December 7, 2009.

¹⁷ Public Notice at 2.